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10/723,343	11/26/2003	Wim De Pauw	YOR920030415US1	8770

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Ryan, Mason & Lewis, LLP
90 Forest Avenue
Locust Valley, NY 11560

EXAMINER

CONTINO, PAUL F

ART UNIT	PAPER NUMBER
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2114

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/723,343

Applicant(s)

DE PAUW ET AL.

Examiner

Paul Contino

Art Unit

2114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION: Final Rejection

Response to Arguments

1. Applicant's arguments filed December 21, 2006, have been fully considered but they are not persuasive.
2. The Examiner respectfully agrees with the Applicant's arguments on page 8 regarding a "distributed serve-based application" as overcoming the applied prior art reference Sheppard et al. The Examiner interprets the Sheppard et al. reference as being a "distributed service-based application" because the test application discussed by Sheppard et al. is performing a service as a result of being distributed throughout the device under test.
3. The Examiner respectfully disagrees with the Applicant's arguments on pages 8 and 9 regarding the prior art Sheppard reference as not teaching refinement of a test case. Throughout the entirety of the Specification, the Examiner finds disclosure only of refinement of an overall test strategy, model, and probing system. A "test case" as defined in the Applicant's Specification and as claimed is interpreted as a component of a test strategy and model, and as a means of producing a result to be obtained by a probe. The Applicant's arguments are considered moot in view of the 35 USC 112 rejections to follow.

4. The Examiner respectfully disagrees with the Applicant's arguments on page 9 pertaining to the prior art Qiao et al. reference as failing to fall within the topic of distributed service-based applications. The term "distributed service-based application" is reasonably interpreted as being sufficiently broad to cover the scope of a diagnostic and repair system for computer-controlled machinery as taught by Qiao et al.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

The newly amended and presented claims filed December 21, 2006, include the limitation "refining at least one executed test case". The Applicant's Specification fails to disclose any such refining of a test case. MPEP 2163(I) and 2163(II)(A) state that the description of the invention requirement is to clearly convey the information that an applicant has invented the subject matter which is claimed. The Examiner finds instances throughout the Specification referencing refinement of a probing strategy (page 5 line 11), refinement and changes to a model

(page 6 lines 5-6 and 11, and page 8 line 3), and refinement of an overall test strategy (page 10 lines 12-21). There is no evidence detailing the refinement of a test case.

* * *

6. Claims 1-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification, at the time the application was filed, would not have taught one skilled in the art how to make and/or use the full scope of the claimed invention without undue experimentation [see MPEP 2164.01(a)]. The included exemplary references Williams et al. and Hartman et al. on page 8 of the Applicant's Specification have not been presented in such a manner as to enable one skilled in the art to combine such teachings of the respective Applicant's admitted prior art with the Applicant's disclosed invention.

* * *

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claims 14 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "substantially" in claims 14 and 28 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The Examiner recommends amending claims 14 and 28 by removing the term "substantially".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 3-15, and 17-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheppard et al. (U.S. Patent No. 5,130,936) in view of Williams et al. (Efficient Regression Testing of Multi-Panel Systems).

As in claims 1, 15, and 29, Sheppard et al. teaches a method, apparatus, and article of manufacture for problem determination in a distributed application, comprising the steps of:

obtaining at least one testing result of the application through execution of at least one test case of a test group in the application (*column 10 lines 49-68*); and

adaptively refining the testing of the application when the at least one testing result comprises at least one failure, to expose at least one problem that caused the at least one failure (*column 10 line 63 through column 11 line 7, and column 12 lines 43-52*).

Sheppard et al. also discloses a memory and at least one processor coupled to the memory operative to carry the invention as claimed (*column 5 line 50 through column 6 line 17*).

However, Sheppard et al. fails to teach of refining a test case. Williams et al. teaches of refining a test case (*5.2 Maintenance of Test Suites paragraph*).

It would have been obvious to a person skilled in the art at the time the invention was made to have included the test case refinement as taught by Williams et al. in the invention of Sheppard et al. This would have been obvious because modification of test cases as taught by Williams et al. offers a means to minimize the amount of testing while enhancing the overall testing of a system (*6. Future Work and Conclusions*) such as that taught by Sheppard et al.

As in claims 3 and 17, Sheppard et al. teaches the step of obtaining testing results comprises the steps of:

generating a test group having at least one test case, from a general model of the application (*column 1 lines 25-29, column 8 lines 43-50, and column 10 lines 51-53*);

executing the at least one test case of the test group in the application (*column 10 lines 67-68*);

passing the at least one result of the test group to an outcome analyzer (*column 10 line 68 through column 11 line 2*); and

verifying the at least one result against expected output at the outcome analyzer (*column 1 lines 34-35 and 48-52, and column 1 line 66 through column 2 line 4, where the test outcome comparison with an expected conclusion is interpreted as verification*).

As in claims 4 and 18, Sheppard et al. teaches the step of verifying the at least one result comprises the step of marking each test case of the test group with a failure or a success (*column 2 lines 12-14 and column 11 lines 15-25*).

As in claims 5 and 19, Sheppard et al. teaches the step of enabling one or more probes that return one or more testing results to the outcome analyzer (*column 10 lines 4-5 and 51-53, where the selection of a test is interpreted as enabling of a probe*).

As in claims 6 and 20, Sheppard et al. teaches the step of adaptively refining the testing of the application comprises the steps of:

enabling one or more additional probes that return one or more results relating to the at least one problem (*column 11 lines 3-4 and column 12 lines 50-52*); and

repeating the method of problem determination in a distributed service-based application (*column 11 lines 3-4 and column 12 lines 50-52*).

As in claims 7 and 21, Sheppard et al. teaches the step of adaptively refining the testing of the application comprises the steps of:

disabling one or more probes that returned one or more results that did not relate to the at least one problem (*column 11 lines 3-4 and 20-35, where choosing other tests and marking tests as "not needed" is interpreted as disabling tests*); and

repeating the method of problem determination in a distributed service-based application (*column 11 lines 3-4 and column 12 lines 50-52*).

As in claims 8 and 22, Sheppard et al. teaches the one or more probes collect one or more intermediary results from the application (*column 13 lines 50-59*).

As in claims 9 and 23, Sheppard et al. teaches the one or more probes return one or more results relating to the functioning of the application (*column 1 lines 26-35 and column 2 lines 12-14*).

As in claims 10 and 24, Sheppard et al. teaches the step of adaptively refining the testing of the application comprises the steps of:

enabling one or more additional probes that return one or more results relating to the at least one problem (*column 11 lines 3-4 and column 12 lines 50-52*);

disabling one or more probes that returned one or more results that did not relate to the at least one problem (*column 11 lines 3-4 and 20-35, where choosing other tests and marking tests as "not needed" is interpreted as disabling tests*);

adapting the test group to comprise at least one test case focused on the at least one problem (*column 10 line 63 through column 11 line 4 and column 12 lines 50-52*); and

repeating the method of problem determination in a distributed service-based application (*column 11 lines 3-4 and column 12 lines 50-52*).

As in claims 11 and 25, Sheppard et al. teaches the step of adaptively refining the testing of the application comprises the steps of:

adapting the test group to comprise at least one test case focused on the at least one problem (*column 10 line 63 through column 11 line 4 and column 12 lines 50-52*); and

repeating the method of problem determination in a distributed service-based application (*column 11 lines 3-4 and column 12 lines 50-52*).

As in claims 12 and 26, Sheppard et al. teaches the step of adapting the test group comprises the step of representing at least one action that correlates to the at least one failure in a model for generating the test group (*column 9 line 59 through column 10 line 23*).

As in claims 13 and 27, Sheppard et al. teaches the step of adapting the test group comprises the step of increasing coverage requirements for at least one state that correlates to the at least one failure in a model for generating the test group (*column 9 line 59 through column 10 line 23*).

As in claims 14 and 28, Sheppard et al. teaches the test group provides [[substantially]] complete coverage across the application (*column 9 line 59 through column 10 line 66*).

* * *

9. Claims 2 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheppard et al. in view of Williams et al., further in view of Qiao et al. (U.S. Patent No. 6,950,782).

As in claims 2 and 16, the combined invention of Sheppard et al. and Williams et al. teaches of localizing a fault. However, the combined invention of Sheppard et al. and Williams et al. fails to teach of fixing a fault. Qiao et al. teaches of fixing at least one problem that caused at least one failure, when the cause of the at least one problem has been localized (*column 5 lines 55-57*).

It would have been obvious to a person skilled in the art at the time the invention was made to have included the fixing of a fault as taught by Qiao et al. in the combined invention of Sheppard et al. and Williams et al. This would have been obvious because the invention of Qiao et al. offers a fast and accurate means of diagnosing and isolating a fault (*column 1 lines 56-60*). Further, one would have found it obvious to fix a fault after identification and isolation in order to keep the system operational with minimal downtime.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Contino whose telephone number is (571) 272-3657. The examiner can normally be reached on Monday-Friday 9:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on (571) 272-3644. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PFC
1/22/2007



SCOTT BADERMAN
SUPERVISORY PATENT EXAMINER